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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
08/477,703	06/07/1995	MITJA V. HINDERKS	RCH-22164-G-	6328

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EXAMINER
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KAMEN, NOAH P

ART UNIT	PAPER NUMBER
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3747

MAIL DATE	DELIVERY MODE
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07/13/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

08/477,703

Applicant(s)

HINDERKS, MITJA V.

Examiner

Noah Kamen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 18 June 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 242-276, 297-320, 360, 362, 369, 370, 372 and 373 is/are allowed.
- 6) ☒ Claim(s) 198-210, 215-217, 219, 221, 224-227, 229-231, 235, 237, 238, 240, 277-286, 288-290, 292-294, 296, 321-336, 338-341, 344-359, 361, 363-368, 371, 374-376 is/are rejected.
- 7) ☒ Claim(s) 211-214, 218, 220, 222, 223, 228, 232-234, 236, 239, 241, 283, 287, 291, 295, 337, 342 and 343 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 349-357, 364-366, 375, and 376 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The applicant has asserted that he has invented an uncooled engine unlike any other. The examiner contends that this is an unproven assertion and that there is nothing in the disclosure that would enable one of ordinary skill in the art to construct a reliable uncooled engine, at best the any engine built according to the instant disclosure would operate no more than a *few hours* before cracking, spalling, seizing, and breaking. The requirements for getting a patent are that the device at least work *briefly*, and it is on this basis that any uncooled engine patent will issue. However, claim 349 and its dependents state that the uncooled engine works indefinitely, therefore a working model tested in a certified lab must be done.

### ***Double Patenting***

Applicant's request for a terminal disclaimer is improper.

See

<http://usasearch.gov/search?affiliate=uspto.gov&v%3Aproject=firstgov&query=terminal+disclaimer>.

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting

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rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claim 221 is provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1+22 of copending Application No. 08/477704 in view of Iver et al (3534828). It would have been obvious to wrap the engine of 08/477704 with the housing of Iver et al which includes foam for noise reduction. The foam will inherently provide thermal insulation. As regard the other limitations, claim 221 is broader in scope than claims 1+22.

This is a provisional obviousness-type double patenting rejection.

NOTE, the examiner does not have the time to compare all 160 claims of 08/477704 with all 150 claims of the present invention for every possible double patenting rejection. The above is merely given as an example. A terminal disclaimer will overcome all possible double patenting issues.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

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the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 198, 199, 202, 203, 206-208, 216, 217, and 219 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gould (1276346) in view of Myers (2394199). Gould shows a cylinder assembly at 18, a component at 40, toroidal chambers at 30, 31, a component fastener 43, cylinder assembly fasteners 19, a passage extending at 3 and 4. In regard to the fastener, to make anything hollow to save weight and expense is deemed an obvious modification principle. However, no housing is shown. Myers show a housing 43 enclosing an engine for reducing noise. Because the housing has noise insulating material 43 it would inherently provide thermal insulation. It would have been obvious to one of ordinary skill in the art to place the housing of Myers around the engine of Gould to reduce noise. In regard to claim 206, the depression reads on both microscopic depressions formed by imperfections of manufacturing and tooling marks from machining of the parts. In regard to claims 207 and 219, placing the engine of Gould inside the chamber of Myers would result in the exhaust pipe extending at least partially around the cylinder assembly, furthermore, the use of insulation wrap around exhaust pipes is notoriously well known.

Claims 198, 200, 209, 210, 277, 278, 279, 281, 284, 286, 288, 289, 290, 293, and 296, are rejected under 35 U.S.C. 103(a) as being unpatentable over Boyd (3667876) in view of Myers (2394199). Boyd shows a cylinder assembly at 63, a component at 74, toroidal chambers near 103, means for rotations at 76,77. However, no housing is shown. Myers show a housing 43 enclosing an engine for reducing noise. Because the housing has noise insulating material 43 it would inherently provide thermal insulation. It would have been obvious to one of ordinary skill in the art to place the housing of Myers around the engine of Boyd to reduce noise. In regard to claim 220, the component is disengagable from the cylinder assembly if the engine is disassembled. The structure is defined as the covering of Myers, and the "housing" is so broad

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as to read on a building in which the engine is located. In regard to claim 281, the cylinder assembly is made from several parts (61, 64), and while no fasteners are shown, hollow bolts are notoriously well known.

Claims 280 and 292 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boyd in view of Myers as applied to claim 277 above, and further in view of Goldsborough (1812870). It would have been obvious to one of ordinary skill in the art to make at least the cylinder assembly and piston of Boyd from ceramic to increase thermal efficiency as taught by Goldsborough. In regard to claim 292, the electric circuit reads on a spark plug.

Claim 282 is rejected under 35 U.S.C. 103(a) as being unpatentable over Boyd in view of Myers as applied to claim 277 above, and further in view of JP63-235648. The material of the component in Boyd is not set forth as comprising ceramic. JP'648 discloses a piston crown 3 of ceramic secured by a fastener 9, which would improve thermal efficiency of the engine, and to do likewise in Boyd would have been obvious to one of ordinary skill in the art.

Claim 201 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gould in view of Myers as applied to claim 198 above, and further in view of JP63-235648. The material of the component in Gould is not set forth as comprising ceramic. JP'648 discloses a piston crown 3 of ceramic, which would improve thermal efficiency of the engine, and to do likewise in Gould would have been obvious to one of ordinary skill in the art.

Claims 198, 204, and 205 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arney (3757748) in view of Myers. Arney shows a cylinder assembly at 13a, 13b with mirrored components 103, toroidal chambers near 76 and 189. However, no housing is shown. Myers show a housing 43 enclosing an engine for reducing noise. Because the housing has noise insulating material 43 it would inherently provide thermal insulation. It would have been

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obvious to one of ordinary skill in the art to place the housing of Myers around the engine of Arney to reduce noise.

Claims 201 and 215 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gould in view of Myers as applied to claim 198 above, and further in view of Goldsborough (1812870). It would have been obvious to one of ordinary skill in the art to make at least the cylinder assembly of Gould partly from ceramic to increase thermal efficiency as taught by Goldsborough. In regard to claim 215, the electric circuit reads on a spark plug.

Claims 221, 226, 229-231, 237, 240, 277, 278, and 285 are rejected under 35 U.S.C. 103(a) as being unpatentable over DE3607421A in view of Myers. DE'421 shows a cylinder portion 2, head portions 5, a component at 8, a passage at 13, a cylinder assembly fastener 7. However, no housing is shown. Myers show a housing 43 enclosing an engine for reducing noise. Because the housing has noise insulating material 43 it would inherently provide thermal insulation. It would have been obvious to one of ordinary skill in the art to place the housing of Myers around the engine of De'421 to reduce noise. In regard to claim 229, the depression reads on microscopic depressions formed by imperfections of manufacturing. In regard to claim 285, placing the engine of Gould inside the chamber of Myers would result in the exhaust pipe extending at least partially around the cylinder assembly, furthermore, the use of insulation wrap around exhaust pipes is notoriously well known.

Claims 224, 225, and 235 are rejected under 35 U.S.C. 103(a) as being unpatentable over DE3607421A in view of Myers as applied to claim 221 above, and further in view of Goldsborough. It would have been obvious to one of ordinary skill in the art to make the cylinder assembly and component of DE'421 from ceramic to increase thermal efficiency as taught by Goldsborough. In regard to claim 235, the electric circuit reads on a spark plug.

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Claims 227 and 238 are rejected under 35 U.S.C. 103(a) as being unpatentable over DE3607421 in view of Myers as applied to claim 221 above, and further in view of JP63-235648. The material of the component in DE'421 is not set forth as comprising ceramic. JP'648 discloses a piston crown 3 of ceramic secured by a fastener 9, which would improve thermal efficiency of the engine, and to do likewise in Gould would have been obvious to one of ordinary skill in the art. Hollow bolts are well known.

Claim 358/359/361/ are rejected under 35 U.S.C. 103(a) as being unpatentable over Gould in view of Myers/DE3607421A in view of Myers/Boyd in view of Myers/ as applied to claims 208/231/286 above, and further in view of Butler (2218522). Butler discloses a first injector delivering fuel and a second injector delivering water into a cylinder for controlling knock and emissions; therefore, to do likewise in Gould/DE3607421A/Boyd, would have been obvious to one of ordinary skill in the art.

Claim 367/368/371 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gould in view of Myers/DE3607421A in view of Myers/Boyd in view of Myers/ as applied to claims 208/231/286 above, and further in view of Hoxton (1620100). The claims read on the well known use of an exhaust brake valve as exemplified by Hoxton at 25, and to use same in Gould/ DE3607421A/Boyd would have been obvious to one of ordinary skill in the art.

Claims 321, 323, 325, 326, 328-330, 332, 333, 336, 339, 340, are rejected under 35 U.S.C. 103(a) as being unpatentable over Gould in view of Berger (3503716). Gould shows the recited toroidal engine. Berger shows filamentary material 43 for treating the exhaust of an engine and to apply its use to Gould for reducing emissions would have been obvious to one of ordinary skill in the art. The phrase "at least partially surround" is so broad as to read on the catalyst merely being located to the side of the engine.



Claim 321, 327, and 341 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arney in view of Berger. Arney shows a cylinder assembly at 13a, 13b with mirrored components 103, toroidal chambers near 76 and 189. Berger shows filamentary material 43 for treating the exhaust of an engine and to apply its use to Gould for reducing emissions would have been obvious to one of ordinary skill in the art. The phrase "at least partially surround" is so broad as to read on the catalyst merely being located to the side of the engine.

Claim 322 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gould in view of Berger as applied to claim 321 above, and further in view of Myers, as applied above.

Claim 324, 331, 334, 338 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gould in view of Berger as applied to claim 321 above, and further in view of Goldsborough, as applied above.

Claim 363 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gould in view of Berger as applied to claim 332 above, and further in view of Butler, as applied above.

Claim 374 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gould in view of Berger as applied to claim 332 above, and further in view of Hoxton, as applied above.

### ***Response to Arguments***

Applicant's arguments filed 6/18/07 have been fully considered but they are not persuasive.

Applicant's arguments regarding Iver are rendered moot because of the new ground of rejection.

The applicant argues that because the claims do not set forth a ceramic cap, the reference of JP63-235648 cannot be applied. The examiner contends that this argument is not germane to the claims and the claims do not prohibit a cap.

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The applicant argues that DE3607421A1 fails to show any housing or any thermal insulation. The examiner agrees, however this deficit is made up for by the secondary reference.

The applicant argues that a spark plug is something different from either a piston or a cylinder. The examiner contends that the claims are so broad as to read on a spark plug mounted in a ceramic cylinder.

### ***Allowable Subject Matter***

Claims 211-214, 218,220, 222, 223, 228, 232-234, 236, 239, 241, 283, 287, 291, 295, 337, 342, and 343 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 242-276, 297-320, 360, 362, 369, 370, 372, and 373 are allowed.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Patyna et al is merely cited of an example of a hollow fastener.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

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CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Noah Kamen whose telephone number is 571 272 4845. The examiner can normally be reached on M-Th 6:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Cronin can be reached on 571 272 4536. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Noah Kamen  
Primary Examiner  
Art Unit 3747



nk